

November 2025

On the 66th edition of the TOP500 El Capitan remains No. 1 and JUPITER Booster becomes the fourth Exascale system.

The JUPITER Booster system at the EuroHPC / Jülich Supercomputing Centre in Germany at No. 4 submitted a new measurement of 1.000 Exflop/s on the HPL benchmark. It is the fourth Exascale system on the TOP500 and the first one outside of the USA.

El Capitan, Frontier, and Aurora are still leading the TOP500. All three are installed at DOE laboratories in the USA.

The **El Capitan** system at the **Lawrence Livermore National Laboratory, California, USA** remains the **No. 1** system on the TOP500. The **HPE Cray EX255a system** was remeasured with **1.809 Exaflop/s on the HPL benchmark**. LLNL also achieved 17.41 Petaflop/s on the HPCG benchmark which makes the system the No. 1 on this ranking as well.

El Capitan has **11,340,000 cores** and is based on **AMD 4th generation EPYC processors with 24 cores at 1.8 GHz** and **AMD Instinct MI300A accelerators**. It uses the **Cray Slingshot 11 network** for data transfer and achieves an energy efficiency of **60.9 Gigaflops/watt**.

The **Frontier** system at the **Oak Ridge National Laboratory, Tennessee, USA** is the **No. 2** system on the TOP500. Frontier has been remeasured with an HPL score of **1.353 Exaflop/s**.

Frontier is based on the **HPE Cray EX235a** architecture and is equipped with **AMD 3rd generation EPYC 64C 2GHz processors**. The system has **9,066,176 total cores** and also relies on **Cray's Slingshot 11 network** for data transfer.

The **Aurora** system at the **Argonne Leadership Computing Facility, Illinois,**

USA keeps the **No. 3** spot on the TOP500 with **1.012 Exaflop/s** on the HPL benchmark.

Aurora is built by Intel based on the HPE Cray EX - Intel Exascale Compute Blade which uses Intel Xeon CPU Max Series processors and Intel Data Center GPU Max Series accelerators which communicate through Cray's Slingshot-11 network interconnect.

The **JUPITER** Booster system at the **EuroHPC / Jülich Supercomputing Centre in Germany** at **No. 4** is now fully installed and was measured at exactly **1.000 Exaflop/s** making it the first European Exascale system.

JUPITER - JU Pioneer for Innovative and Transformative Exascale Research is located at the Forschungszentrum Jülich campus in Germany and is operated by the Jülich Supercomputing Centre. It is based on the **Eviden's BullSequana XH3000**

| Rank | System | Cores | Rmax (PFlop/s) | Rpeak (PFlop/s) | Power (kW) |
|------|--|------------|----------------|-----------------|------------|
| 1 | El Capitan - HPE Cray EX255a, AMD 4th Gen EPYC 24C 1.8GHz, AMD Instinct MI300A, Slingshot-11, TOSS, HPE DOE/NNSA/LLNL United States | 11,340,000 | 1,809.00 | 2,821.10 | 29,685 |
| 2 | Frontier - HPE Cray EX235a, AMD Optimized 3rd Generation EPYC 64C 2GHz, AMD Instinct MI250X, Slingshot-11, HPE Cray OS, HPE DOE/SC/Oak Ridge National Laboratory United States | 9,066,176 | 1,353.00 | 2,055.72 | 24,607 |
| | Aurora - HPE Cray EX - | | | | |

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|---|---|-----------|----------|----------|--------|
| 3 | Intel Exascale Compute Blade, Xeon CPU Max 9470 52C 2.4GHz, Intel Data Center GPU Max, Slingshot-11, Intel DOE/SC/Argonne National Laboratory United States | 9,264,128 | 1,012.00 | 1,980.01 | 38,698 |
| 4 | JUPITER Booster - BullSequana XH3000, GH Superchip 72C 3GHz, NVIDIA GH200 Superchip, Quad-Rail NVIDIA InfiniBand NDR200, RedHat Enterprise Linux, EVIDEN EuroHPC/FZJ Germany | 4,801,344 | 1,000.00 | 1,226.28 | 15,794 |
| 5 | Eagle - Microsoft NDv5, Xeon Platinum 8480C 48C 2GHz, NVIDIA H100, NVIDIA Infiniband NDR, Microsoft Azure Microsoft Azure United States | 2,073,600 | 561.20 | 846.84 | |
| 6 | HPC6 - HPE Cray EX235a, AMD Optimized 3rd Generation EPYC 64C 2GHz, AMD Instinct MI250X, Slingshot-11, RHEL 8.9, HPE Eni S.p.A. Italy | 3,143,520 | 477.90 | 606.97 | 8,461 |
| 7 | Supercomputer Fugaku - Supercomputer Fugaku, A64FX 48C 2.2GHz, Tofu interconnect D, | 7,630,848 | 442.01 | 537.21 | 29,899 |

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|-----------|--|-----------|--------|--------|-------|
| | Fujitsu RIKEN Center for Computational Science Japan | | | | |
| 8 | Alps - HPE Cray EX254n , NVIDIA Grace 72C 3.1GHz , NVIDIA GH200 Superchip , Slingshot-11 , HPE Cray OS , HPE Swiss National Supercomputing Centre (CSCS) Switzerland | 2,121,600 | 434.90 | 574.84 | 7,124 |
| 9 | LUMI - HPE Cray EX235a , AMD Optimized 3rd Generation EPYC 64C 2GHz , AMD Instinct MI250X , Slingshot-11 , HPE EuroHPC/CSC Finland | 2,752,704 | 379.70 | 531.51 | 7,107 |
| 10 | Leonardo - BullSequana XH2000 , Xeon Platinum 8358 32C 2.6GHz , NVIDIA A100 SXM4 64 GB , Quad-rail NVIDIA HDR100 Infiniband , EVIDEN EuroHPC/CINECA Italy | 1,824,768 | 241.20 | 306.31 | 7,494 |